



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,571	01/30/2004	Thomas R. Apel	008.P001	8895
7590	07/05/2006		EXAMINER	
Joseph Pugh 2300 NE Brookwood Parkway Hillsboro, OR 97124			WARREN, MATTHEW E	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6/

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/769,571	APEL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Matthew E. Warren	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 April 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-16 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____ .  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____.  | 6) <input type="checkbox"/> Other: _____ .                                  |

## DETAILED ACTION

This Office Action is in response to the RCE and Amendment filed on April 28, 2006.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 5,266,819) in view of Chau et al. (US 5,512,496).

In re claim 1, Chang et al. shows (figs. 7 and 8) an alternate embodiment for an integrated circuit comprising: a bipolar junction transistor in which a base contact region (61") forms a fishbone configuration and an emitter region (61') is adjacent to the periphery of the fishbone configuration. Chang shows all of the elements of the claims except the fishbone configuration having a spine and at least one finger that extends from one side and at least one finger that extends from a second side of the spine.

Chau et al. shows (fig. 12A) a bipolar transistor having a base contact region (transmission line 1208) having a fishbone configuration wherein the spine of the fishbone has a base finger (1212) that extends from one side and at least one base finger (1212) that extends from a second side of the spine. With this configuration a high power multiple finger transistor is formed that eliminates the requirement for airbridges that add process difficulty and cost (col. 8, lines 1-12). Therefore, it would have been

Art Unit: 2815

obvious to one of ordinary skill in the art at the time the invention was made to modify the base contact region of Chang by forming the base fingers on both sides of the spine as taught by Chau to form a high power transistor that eliminates the requirement for airbridges that add process difficulty and cost.

In re claim 2, Chang shows (figs. 8) that an emitter contact region (E) has an isomorphic shape with respect to the emitter region and is in direct physical contact with the top surface of the emitter region. The contact (E) has the same rectangular shape as the emitter region portion below it and is therefore isomorphic.

In re claims 3 and 4, Chang discloses (col. 4, lines 65-67) that the contact regions comprise conductive material such as metal.

In re claims 5, 6, and 12, Chang discloses (col. 5, lines 67) that the transistor comprises AlGaAs and GaAs and may be a heterojunction bipolar transistor.

In re claim 7, Chang shows (fig. 7) that the base region contacting tab is embedded within an extension (portion marked B) from a spine of the fishbone configuration.

In re claims 8-11, pertaining to the types of devices that the bipolar transistor is employed in, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F. 2d 1647 (1987). Furthermore, amplifiers and cell phones are merely known devices which may employ a bipolar transistor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

modify the bipolar transistor of Chang by using it in a power amplifier and/or cell phone to enable those devices to operate to increase the operating frequency.

In re claims 13 and 14, Chang does not specifically disclose the specific length or width of the extensions or the distance between the base and emitter regions. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the length or width of the fishbone extensions or the distance between the base and emitter regions of the desired parameters, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In re claims 15 and 16, Chau shows (fig. 12A) that the fishbone configuration includes at least six extensions connected to the spine.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (571) 272-1737. The examiner can normally be reached on Mon-Thur and alternating Fri 9:00-5:00pm.

Art Unit: 2815

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew E. Warren



June 24, 2006